AMSAT News Service Weekly Bulletins
Issue: ANS-325
Date: 2021-11-21
Sources: amsat-ans-2021-ans-325-weekly-hyperkitty-e16fd1ce6f.txt

---

AMSAT NEWS SERVICE
ANS-325

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor [at] amsat.org

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see: https://mailman.amsat.org/postorius/lists/ans.amsat.org/

In this edition:

* Russian Anti-Satellite (ASAT) Missile Generates Debris Cloud, Threatens ISS and Other Assets in LEO
* Ten-Koh 2 Microsatellite With JAMSAT V/u Linear Transponder Coordinated by IARU
* Open Source CubeSat Workshop 2021 - Call for Abstracts extended till 22. Nov
* Prof. Dr. Karl Meinzer, DJ4ZC, Made Honorary Deutscher Amateur Radio Club (DARC) Member
* ARISS News
* Upcoming Satellite Operations
* Hamfests, Conventions, Maker Faires, and Other Events
* Satellite Shorts From All Over

ANS-325 AMSAT News Service Weekly Bulletins

To: All RADIO AMATEURS
From: Radio Amateur Satellite Corporation
712 H Street NE, Suite 1653
Washington, DC 20002

DATE 2021 Nov 21

Russian Anti-Satellite (ASAT) Missile Generates Debris Cloud, Threatens ISS and Other Assets in LEO

On Monday November 15th, the Russian Ministry of Defense launched a anti-satellite (ASAT) missile, destroying their Kosmos 1408 satellite. Kosmos 1408 was launched on September 16, 1982 and was in an orbit of 679 km x 645 km with an inclination of 82.5 degrees.

The destruction of the satellite caused the generation of at least 1500 pieces of debris, orbiting between 300 km and 1100 km. As the satellite was just above the ISS's altitude, this debris cloud potentially threatened the astronauts and cosmonauts on board the ISS, who were forced to take shelter in their crew capsules during the second and third passes of the debris field.

NASA Administrator Bill Nelson released the following statement condemning the Russian test:

“Earlier today, due to the debris generated by the destructive Russian Anti-Satellite (ASAT) test, ISS astronauts and cosmonauts undertook emergency procedures for safety.

“Like Secretary Blinken, I’m outraged by this irresponsible and destabilizing action. With its long and storied history in human spaceflight, it is unthinkable that Russia would endanger not only the American and international partner astronauts on the ISS, but also their own cosmonauts. Their actions are reckless and dangerous, threatening as well the Chinese space station and the taikonauts on board.

“All nations have a responsibility to prevent the purposeful creation of space debris from ASATs and to foster a safe, sustainable space environment.

“NASA will continue monitoring the debris in the coming days and beyond to ensure the safety of our crew in orbit.”

In an interview with the ARRL, AMSAT President Robert Bankston, KE4AL, said that Russia’s action will pose a threat to all activities in low Earth orbit for years to come, placing satellites and human spaceflight missions at risk.

“Space is already crowded, but now there are at least 1,500 trackable fragments and, possibly, hundreds of thousands of smaller yet still-threatening pieces of debris in low Earth orbit,” Bankston said. “While space stations have the capability to move out of the way, with sufficient notice, most satellites in low Earth orbit, including those designed, built, launched, and operated by AMSAT, do not. As such, they face greater risk of catastrophic destruction or degraded mission functionality, if struck by fragments from Russia’s destruction of Kosmos-1408.”

[ANS thanks NASA, AMSAT, and the ARRL for the above information]

+=+=+=

from Nihon University's Faculty of Arts. The camera module, developed by Cheng Kung University, will take pictures of the earth of approximately 3 MB in size per picture. Radio amateurs around the world will be able to copy parts of the picture data that will be combined to produce a complete image, which will be published on the website. The image transmission system is expected to operate for one day per week. The satellite will also carry an experimental 5.8 GHz microwave transmitter, which will operate a CW beacon for one day per week. Additionally, the satellite will experiment with high speed data transmission on the 435 MHz downlink, with data rates of up to 38.4 kbps in 4FSK. High speed data transmission is expected to operate for one day per week.

The linear transponder uplink will be 145.895 MHz - 145.935 MHz and the downlink will be 435.875 MHz - 435.915 MHz. The data, digitalker, and image downlink will be 435.895 MHz. The microwave CW beacon will be 5389.000 MHz.

A JAXA launch to a 500 km circular orbit with an inclination of 51.6 degrees is planned for 2023.

More information about the satellite is available at https://okuyamalab.wordpress.com/

[ANS thanks the IARU for the above information]

+=+=+=

(DARC) honorary member. AMSAT congratulates Dr. Meinzer on this well-deserved honor. In addition to the accomplishments described by DARC in the announcement below, Dr. Meizner's work was integral to the early history of AMSAT. His doctoral research on High Efficency Linear Amplification by Parametric Synthesis (HELAPS) was crucial for the linear transponders in operation on amateur satellites. Along with his doctoral research, Dr. Meinzer developed and built a linear transponder utilizing these HELAPS principles with a 432 MHz uplink and a 145 MHz downlink along with Werner Hass, DJ5KQ. This transponder was flown as the Mode B transponder on AMSAT-OSCAR 7 and is still functioning more than 47 years after its launch on November 15, 1974.

A translation of the DARC post reads:

This was announced by DARC chairman Christian Entsfellner, DL3MBG, at the virtual conference of the amateur council – in replacement of the canceled general meeting – on November 13th. Meinzer developed an enthusiasm for amateur radio at a young age. At the age of 17 he obtained his amateur radio license in 1957.

He passed the Abitur [educational qualification] along with a degree in physics and graduated with a doctorate. He spent his professional life at the University of Marburg, especially in the Central Development Laboratory (ZEL) until his retirement in 2005. The rooms of the ZEL were also the headquarters of the AMSAT-DL. Numerous OSCAR satellites were created in the laboratories in Marburg: AO-10, AO-13, AO-21, AO-40. Phase 3E is de facto finished, but is still waiting for a suitable launch. A special operating system works in all satellites built by AMSAT-DL, on which Meinzer played a key role.

Meinzer doesn’t skimp on sharing his expertise and so he is still in close contact with the board of AMSAT-DL today. It is not surprising that DJ4ZC was one of the first radio amateurs to work on QO-100.

In addition, Prof. Dr. Karl Meinzer carried out further technical radio tests. He was obsessed with testing whether radio signals could be reflected off the planet Venus. In fact, he succeeded in doing this with 5 kW at 2.4 GHz, including a water-cooled magnetron. He had a special permit from the Federal Network Agency [BNetzA] specifically for these experiments.

But even in earlier years he achieved amazing things: In 1964 he set a course record of 70 cm between his home town of Iserlohn and Switzerland. And even then he was QRV on 433 MHz EME and contacted Puerto Rico. “He is one of the few old-timers who keeps pace with modern technology,” explains Christian Entsfellner, DL3MBG.

“There are only three Keplerian laws, everything can be done in them,” said Meinzer once, according to DL3MBG. “Unfortunately, he is reluctant to present his skills, but the AMSAT board always likes to refer to his expertise,” said the DARC chairman, who later wishes him a happy 82nd birthday.

“The DARC has unanimously decided to award you honorary membership for your services. I am happy to welcome you as a new honorary member, ” concluded DL3MBG.

DJ4ZC expressed his thanks. “My life has always been shaped by amateur radio. Some of the services were only made possible by other people, ”explains Meinzer. “I hope to continue to contribute something for amateur radio and DARC in the future.

Unfortunately, communication behavior in society has changed. So it’s a challenge for the DARC. However, I have the hope that technology will gain more importance again. Ultimately, amateur radio has to prove that it is

useful for society," said Prof. Dr. Meinzer in conclusion.

[ANS thanks DARC for the information and AMSAT-UK for the translation]

ARISS News

Amur State University, Blagoveshchensk, Russia, direct via TBD (***)

The ISS callsign is presently scheduled to be RSØISS
The downlink frequency is presently scheduled to be 145.800 MHz
The scheduled crewmember is Anton Shkaplerov (***)

Contact is go for Mon 2021-11-29 08:20 UTC (***)

The next mode change is expected to occur in early December.

The latest information on the operation mode can be found at
https://www.ariss.org/current-status-of-iss-stations.html

The latest list of frequencies in use can be found at
https://www.ariss.org/contact-the-iss.html

Activation of the MAI-75 SSTV experiment is proposed for December 1 and 2.
Targeted start and stop times in UTC are:

December 1 – Start: 12:10 - Stop: 19:10
December 2 – Start: 11:40 - Stop: 17:20

Opportunities for North America on Dec 1 and only far eastern North America
on Dec 2.

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors,
for the above information]

+=+=+=

information]

+=+=+=